

## EXTRACTING HOOD WITH CONTROL DEVICE FOR CONTROLLING FURTHER DEVICES IN DIGITAL HOME AND KITCHEN

DescriptionTechnical Field

The present invention relates to a multifunctional aspirating hood for household use.

Background Art

In recent years, aspirating hoods for household use have undergone considerable technological advances, since the need for a more balanced and controlled home environment is felt ever more acutely. Highly sophisticated means are used to control the power of aspiration motors, filters with timed indicator light, illumination, as well as to automate start-up, to time maximum motor speed, for gas sensors, etc. There are also hoods that approach the cooking range. In any case, all these means serve specific purposes, pertaining to the typical functions of a hood, i.e. aspiration and purification. Even in last generation hoods such tasks are individual and disconnected from each other: for example, no fault control is provided. Above all, known hoods lack any convenience for the user during the time, always quite long, (s)he spends in the kitchen.

Disclosure of Invention

Therefore, the present invention aims to overcome the aforementioned drawbacks.

In particular, an object of the invention is to provide a household hood with functions which go beyond the common field of use of this household appliance.

Another object of the invention is to provide a household hood that has a mutually integrated functions.

A further object of the invention is to provide a household hood which provides new opportunities and enhances the convenience of those who spend much of their time in the kitchen.

Therefore, the present invention provides a multifunctional household aspirating hood, which from a general point of view is characterised in that it comprises, in the front part of its body, a multimedia apparatus including a monitor as a terminal unit of interaction with a plurality of devices useful when using the kitchen and managing the home.

Further characteristics of the invention shall become more readily apparent from the detailed description that follows, of a preferred embodiment shown purely by way of non limiting example in the accompanying drawings in which:

- Figure 1 is a perspective view of the multifunctional hood according to the present invention;
- Figure 2 is a front view of the hood of Figure 1;
- Figure 3 is a partially sectioned lateral view of the hood of Figure 2;
- Figure 4 is a perspective view of a monitor of the hood according to the invention;
- Figure 5 is a block diagram of the hood according to the present invention; and
- Figure 6 is a schematic representation exemplifying a standard display on the monitor of the hood according to the invention.

#### Description of the Illustrative Embodiments

With reference initially to Figures 1 and 2, which are respectively a perspective bottom view and front view of the hood according to the present invention, the hood comprises a body 1, having in its front part, a multimedia apparatus globally designated by the reference number 2. The multimedia apparatus 2 internally houses a computer, having as a video terminal a monitor 3 which allows interaction with a plurality of devices useful when using the kitchen and managing the household. Preferably, the monitor 3 has a touch screen 4, which enables to interact with the information simply by touching the portion of the screen whereon they are shown.

With reference now to Figures 3 and 4, which are a partially lateral view sectioned at the monitor and, respectively, a limited perspective view limited to the monitor 3 and to its support 5. The monitor 3 is of the lectern type, so it occupies little space in the multimedia apparatus 2. Preferably, the monitor 3 is suspended from the support 5, such as a curved arm, having a distal end 6 in the form of a plate fastened to a wall inside the apparatus 2 and a proximal end 7. The proximal end 7, i.e. the one connected to the monitor 3, has a spherical portion 8 inserted in a seat 9 in the rear part of the monitor 3 to obtain a ball joint. In this way, the monitor 3 can be oriented towards any direction within the environment of a kitchen.

Hereafter, with reference to Figures 2 and 5, an embodiment of the multimedia apparatus 2 is provided by way of example. It is readily apparent that other arrangements of the same devices that comprise it are possible. The same apparatus may comprise different devices from those indicated.

In particular, Figure 2 shows some devices which, due to their very function, are positioned externally in the apparatus 2. At both sides of the monitor 3 there is a sound diffuser 10, 11. Immediately above the monitor 3 are schematically shown, from left to right, a microphone 12 for voice commands to the computer, an infrared sensor 13 to receive remote controls from related emitters, an alarm siren 14 and a reader 15 of DVDs, DVRs, CD or floppy disks. Centrally, above the monitor there is an integrated video camera 16. In the upper part of the apparatus is shown a series of antennas; from left to right in Figure 2, the reference number 17 designates an antenna TV the reference number 18 designates a weather antenna and the number 19 a telephone antenna. Inferiorly in the apparatus 2, the reference number 20 designates a lighting system, and the reference number 21 a series of sensors.

Figure 5 shows a block diagram with a representation of the devices of the hood connected to a central processing unit designated by the reference number 22. Many of these devices have already been indicated with reference to structural elements in Figure 2, which in Figure 5, for the sake of convenience, retain the same number. Shown are: the lectern monitor 3 with adjustable inclination and possibly also height to have a better vision; a sensor touch tft to provide a touch screen 3 in the monitor 3; integrated video camera 16; a digital memory 23; a DVD, DVR, CD ROM and floppy disk reader 15; a video telephone receiver 24 with related card, antenna 19, direct outlet 190 and modem 191 for Internet and intranet; a receiver 25 with related card 26 for TV reception with multiple inputs via cable, dipole or satellite antenna 17; a low frequency amplifier 27 with speakers 10, 11; a receiver 28 with microphone 12 for voice commands; a series of sensors 21 for analysing the environmental state (gas, humidity, infrared, odours, etc.); one or more alarm sirens, whereof at least is incorporated; one or more remote TV cameras, one or more fixed or portable video intercoms from an IR port 29; one or more intrusion alarm sensors 30 for doors and windows; a remote control 31 for remotely controlling the functions; a card 32

for controlling the peripheral functions of the hood, motors, lights, timings, signalling of the state of the filters, alarm signalling with possible automatic calls to pre-set telephone numbers to alert relatives or the cognisant authorities; a remote transmitter 33 of telephone signals; an external meteorological unit for checking the weather, temperature, atmospheric pressure, wind, sun, rain, humidity, air quality, CO<sub>2</sub> etc. with the result of receiving with antenna 18 and related card 34 from a remote weather transmitter the current weather and the state of pollution outdoors; a printer 35; an optional keyboard 36; a bluetooth card 37; a power supply 38. A diagnostics software provides the capability of calling technical personnel directly via Internet in case of failures.

The hood according to the invention is a more active and intelligent household appliance than conventional ones. It provides kitchen operators with a multiplicity of services thanks to the multimedia apparatus. Said apparatus, through the lectern monitor with adjustable inclination, but also adjustable height, can make life easier, more joyful, more creative. The apparatus can automatically control the general functions of the hood; inform with the TV and entertain with music; allow to communicate by video telephone or video intercom; watch the doors and windows of the home, as well as children, the elderly, persons who are not self-sufficient and visitors with a related alarm; allow to communicate via Internet through a modem for downloading recipes, as well as all information typically available in the network; intelligently control energy consumption through a micro-controller (not shown), with adequate software according to actual needs; having a recipe book on an archive, with the capability of personalising the user's own recipes, right above the work counter. Thanks to a selection, commands become vocal leaving the hands free, in contact with foods.

Figure 6 shows an initial standard display, which allows to have a time indicator with alarm clock and date display 61, and in a window 62 meteorological information, such as internal and external temperature, atmospheric pressure, wind, sun, rain, humidity, air quality, CO<sub>2</sub>, etc. It is thus possible to know the current weather and the state of external and internal pollution. A window 63 of the display pertains to the video intercom, enabling to monitor the entry of the home, while on a window 64 is displayed the state of the alarm system of the entire home, in particular of any room where children or elderly person are

located. Lastly, a window 65 can display a recipe or other information to remember, such as appointments or purchases to be made to replenish stocks and to order the supplies directly from stores, or a pleasant photograph.

In the lower area 66 of the display can be inserted command windows to control the hood.

Lastly, the diagnostic software provides the capability, in automatic mode via Internet, of calling technical personnel directly in case of failure, and to be connected 24 hours a day with a service centre.

A hood with these automated functions integrates the functions of communicating and of having directly above the work counter multimedia information useful for household activities and life within the home, making every day life simpler and pleasant, and of controlling and optimising consumption with considerable energy savings.

With the hood according to the invention, a world wide recipe book can be archived and available for direct consultation during cooking operations, with the ability to add personalised recipes.

The monitor and the speakers with related microphone are an integral part of a video intercom and video telephone system with the possibility of communicating without being distracted from the activity in the kitchen.

Through the remote cameras, the monitor allows total control of the home, in particular its entries and the rooms of children or elderly persons.

The multimedia apparatus applied to the hood according to the invention is useful as an alarm system for intrusions, fires or floods, with automatic alert call, through the incorporated telephone, to the owner and to any rescue forces, recording images for subsequent checks.

The monitor is connected to a video card for viewing TV, DVD, CD ROM, Internet and Intranet programs.

Through the direct information on the monitor, managed by the computer, motor consumption, lights and times are optimised to obtain considerable energy savings.

The invention as conceived can be subject to numerous modifications and variants, without thereby departing from the scope of the innovative concept.